# LTE standards group targeting mission-critical push-to-talk specifications for early 2016

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February 12, 2016

Officials for 3GPP , the standards body for LTE technology, recently said the organization plans to establish a standard for mission-critical-voice functionality over LTE early next year. That action could have significant impact on both 4G LTE initiatives and LMR plans for public-safety and critical-communications entities.

To help ensure that this aggressive timeline can be met, 3GPP has created a new working group—called SA6—specifically to tackle the challenges associated with mission-critical applications, with an initial focus on mission-critical voice, according to 3GPP officials.

“I think we’ve got very challenging targets,” Andrew Howell, 3GPP’s SA6 convenor, said during a video interview conducted from the SA6 working group’s first meeting . “But I think that people are realizing that and are working towards it.

“Although I think we have challenging targets, I think they can be met. I think we’ll be looking for stable specifications in the early part of next year, which I know is key to some of our key stakeholders. We’re doing what we can to support them, and we’re working very closely with them.”

Mission-critical radio and core-network functionality is part of LTE Release 12, which is scheduled to be functionally frozen in March, according to this 3GPP video. The new SA6 working group’s development of an LTE standard for mission-critical voice functionality is scheduled be part of LTE Release 13, which is scheduled to be finalized next year.

“Once the basic building blocks were in place for the core-network layer and the radio layer, we started looking into the application-layer aspects,” said Balazs Bertenyi, 3GPP Technical Specifications Group (TSG) and System Aspects (SA) chairman. “3GPP traditionally doesn’t work on application-layer aspects; there are other organizations doing that, like the Open Mobile Alliance [OMA] and ETSI. We were very much aware of ongoing work in those organizations, so we actually came together with those two organizations to [determine] the best way of

harmonizing the efforts.

“As a result of those discussions, we decided that we should channel all of these activities into a single place, and the preference [was] for that place to be 3GPP. That was last August.”

Work on a push-to-talk over cellular (PoC) standard within OMA was the source of criticism from FirstNet board member Kevin McGinnis in June 2014. At that time, Andrew Thiessen—deputy program manager for Public Safety Communications Research (PSCR)—said he did not object to multiple standards organizations working on the mission-critical-voice issue in its formative stages, but he did express a desire to see those efforts unified by the end of 2014.

The SA6 working group conducted its initial meeting in late January and is scheduled to convene eight times this year. The working group’s next meeting is scheduled for Feb. 25-27 in France, and its third meeting is scheduled to begin on April 13 in San Jose. The complete 2015 schedule for the SA6 working group is available on the 3GPP web site.

Countries throughout the world have expressed a desire to deploy public-safety LTE networks that provide mission-critical communications to first responders. The United States started this trend with its FirstNet initiative, but the United Kingdom (UK) has expressed a desire to migrate public-safety communications to LTE as early as 2016. South Korean officials also have indicated that they want public-safety LTE communications operational in 2017.

However, one of the biggest questions surrounding these efforts has been when mission-critical voice—the primary functionality of legacy first-responder LMR networks—might be part of the LTE standard and when it can be deployed effectively for public safety. This timetable is critical to plans for those wanting to build mission-critical LTE networks, as well as for the governing bodies of public-safety agencies, which must decide whether to invest more to maintain or upgrade current LMR networks.

Last year, an Alcatel-Lucent official said LTE equipment capable of supporting public safety’s

need for mission-critical voice could be commercially available by 2018. If the SA6 working group is able to meet its schedule and develop an LTE mission-critical-voice standard early next year, this projection is very realistic, according to industry experts.

But the availability of standardized mission-critical-voice LTE gear is only one part of the equation that state and local officials must consider when contemplating the notion of further investments in LMR systems.

In the United States, no government entity is certain when mission-critical voice over LTE will be an option, because the timetable for FirstNet 's deployment has not been determined. FirstNet officials plan to release a draft request for proposal (RFP) by the end of March, and they have expressed hope that a final RFP can be prepared by the end of the year.

However, when FirstNet will deploy its LTE network in a given geographic area is unknown, because no decisions have been made about the procurement process and business model for the system.

A second question of timing is when—if ever—public-safety personnel will be comfortable enough with mission-critical voice over LTE that they would be willing to part with their trusted LMR systems. FirstNet officials have said that they plan to design the nationwide public-safety LTE network to support mission-critical voice eventually, but they have stressed that public-safety representatives will determine when to adopt the voice capability.

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